Amendments to the Claims

Claims 1-36 (Cancelled).

37. (Currently amended) A method for controlling the texture of a cast material ~~alloy~~, comprising the steps of:

providing a cast material selected from the group consisting of high purity aluminum, high purity titanium, high purity copper, high purity tantalum, high purity nickel, high purity silver, high purity gold, high purity platinum, a titanium alloy, a copper alloy, a tantalum alloy, a nickel alloy, a silver alloy, a gold alloy, a platinum alloy, an alloy consisting essentially of aluminum and copper, and aluminum alloyed with at least one of tantalum, titanium, silver, gold, platinum, and nickel; ~~comprising a non ferrous based alloy~~;

performing a preliminary treatment comprising subjecting the cast material to homogenizing, hot forging and solutionizing, where the preliminary treatment utilizes a single heating of the cast material;

after the performing the preliminary treatment, defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least a route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected routes.

38. (Currently amended) A method for controlling the texture of a cast material ~~alloy~~, comprising the steps of:

providing a cast material selected from the group consisting of high purity aluminum, high purity titanium, high purity copper, high purity tantalum, high purity nickel, high purity silver, high purity gold, high purity platinum, a titanium alloy, a copper alloy, a tantalum alloy, a nickel alloy, a silver alloy, a gold alloy, a platinum alloy, an alloy consisting essentially of aluminum and copper, and aluminum alloyed with at least one of tantalum, titanium, silver, gold, platinum, and nickel; ~~comprising a non-ferrous based alloy;~~

performing a preliminary treatment comprising subjecting the cast material to homogenizing, followed by hot forging, and subsequent solutionizing, the preliminary treatment utilizing a single heating of the cast material;

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one route from the defined routes for processing the alloy;

after the performing the preliminary treatment; processing the alloy through the selected at least one route; and

recovery annealing the alloy at a temperature range and a time period determined for the alloy for obtaining substantially uniform grain size, global microstructure and texture.

39. (Cancelled)

40. (Currently amended) A method for controlling the texture of a cast material ~~alloy~~, comprising the steps of:

providing a cast material selected from the group consisting of high purity aluminum, high purity titanium, high purity copper, high purity tantalum, high purity nickel, high purity silver, high purity gold, high purity platinum, a titanium alloy, a copper alloy, a tantalum alloy, a nickel alloy, a silver alloy, a gold alloy, a platinum alloy, an alloy consisting essentially of aluminum and copper, and aluminum alloyed with at least one of tantalum, titanium, silver, gold, platinum, and nickel; ~~comprising a non-ferrous based alloy~~;

heating the cast material and without additional heating events, treating the cast material by homogenization, hot-forging and solutionizing;

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one route from the defined routes for processing the alloy;

processing the alloy by performing at least one pass through the selected at least one route;

after the processing, intermediate annealing the alloy;

after the intermediate annealing, performing at least one additional pass through the selected at least one route; and

post-extrusion processing the alloy to create a specific texture, a uniform grain size and a high texture strength for the alloy.

41. (Cancelled)

42. (Previously presented) The method of claim 37 further comprising intermediate annealing between at least some of the passes.

43. (Previously presented) The method of claim 42 wherein the intermediate annealing comprises recovery annealing.

44. (Previously presented) The method of claim 42 wherein the intermediate annealing comprises recrystallization annealing at the beginning temperature of static recrystallization.

45. (Previously presented) The method of claim 42 wherein the intermediate annealing comprises recrystallization annealing at a temperature above the beginning temperature of static recrystallization.

46. (Previously presented) The method of claim 37 further comprising, after the predetermined number of passes, performing an annealing treatment.

47. (Previously presented) The method of claim 46 wherein the annealing treatment comprises recovery annealing.

48. (Previously presented) The method of claim 46 wherein the annealing treatment comprises recrystallization annealing at a temperature corresponding to the beginning temperature of static recrystallization.

49. (Previously presented) The method of claim 46 wherein the annealing treatment comprises recrystallization annealing at a temperature at or above the temperature of full static recrystallization.

50. (Previously presented) The method of claim 40 wherein the intermediate annealing comprises at least one of a) recovery annealing, B) annealing at the beginning temperature of static recrystallization, and C) full static recrystallization annealing.

51. (Previously presented) The method of claim 40 wherein the post-extrusion processing comprises performing a post-extrusion annealing treatment, the post-extrusion annealing comprising at least one of a) recovery annealing, B) annealing at the beginning temperature of static recrystallization, and C) full static recrystallization annealing.

Claims 52-53 (Cancelled).